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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/563,305	01/04/2006	Takeshi Watase	282051US0PCT	8356
22850	7590	12/19/2008	EXAMINER	
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			DUCHENEAUX, FRANK D	
			ART UNIT	PAPER NUMBER
			1794	
			NOTIFICATION DATE	DELIVERY MODE
			12/19/2008	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b> 10/563,305	<b>Applicant(s)</b> WATASE ET AL.	
	<b>Examiner</b> FRANK D. DUCHENEAUX	<b>Art Unit</b> 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 10/22/2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) 9-10 and 16-21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 11-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 January 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>1/4/2006</u> .  | 6) <input type="checkbox"/> Other: _____                          |

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## DETAILED ACTION

### *Election/Restrictions*

1. Applicant's election without traverse of Species I (claim 1-8, 11-15) in the reply filed on 10/22/2008 is acknowledged.
2. Claims 9-10 and 16-21 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 10/22/2008.

### *Specification*

3. Applicant is reminded of the proper content of an abstract of the disclosure.

A patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains. If the patent is of a basic nature, the entire technical disclosure may be new in the art, and the abstract should be directed to the entire disclosure. If the patent is in the nature of an improvement in an old apparatus, process, product, or composition, the abstract should include the technical disclosure of the improvement. In certain patents, particularly those for compounds and compositions, wherein the process for making and/or the use thereof are not obvious, the abstract should set forth a process for making and/or use thereof. If the new technical disclosure involves modifications or alternatives, the abstract should mention by way of example the preferred modification or alternative.

The abstract should not refer to purported merits or speculative applications of the invention and should not compare the invention with the prior art.

Where applicable, the abstract should include the following:

- (1) if a machine or apparatus, its organization and operation;
- (2) if an article, its method of making;
- (3) if a chemical compound, its identity and use;
- (4) if a mixture, its ingredients;
- (5) if a process, the steps.

Extensive mechanical and design details of apparatus should not be given.

4. Applicant is reminded of the proper language and format for an abstract of the disclosure.

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The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

5. The abstract of the disclosure is objected to because 1) Language of the abstract should not include references to the disclosure. The examiner requests the omission of the word "disclosed." 2) The end of the abstract, "...which is particularly useful..." purports the merits/applications of the invention and should be omitted. Correction is required. See MPEP § 608.01(b).

6. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: RESIN COATED METAL SHEET WITH HEAT RELEASING PROPERTIES.

7. The disclosure is objected to because of the following informalities: The meaning of the term "whitely" on page 73, last line and page 74, line 6 is not explicitly defined. Appropriate correction is required.

8. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

***Claim Objections***

9. **Claims 11** is objected to because of the following informalities: . Line 6 of claim 11 should read "...containing black additives and a resin..." Section (3) of claim 11 recites "...and an addition amount of..." This word choice makes unclear as to what the applicant(s) are trying to state about the composition of the resin coating. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

10. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

11. **Claim 3** is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The examiner notes that the scope of the claim is confusing. As recited, it appears that the magnetic powder includes both the magnetic metal powder and the soft magnetic ferrite powder OR either of the two. If it is the latter, the examiner suggests that the dependency of claim 3 be changed from claim 2 to claim 1.

12. **Claims 5, 6, 11 and 14** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

**Regarding claims 5 and 6**, the applicants have stated that the magnetic coating film contains "from 20 to 40% of an electrically conductive additive" (claim 5) and that "a

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total content of the electrically conductive additive and the magnetic powder in the magnetic coating film is from 30 to 60%" (claim 6). The examiner notes that nowhere in the claim language have the applicant(s) specified to what value the percentages pertain (e.g. % mass or % volume).

**Regarding claim 11 and 14**, the end of section (3) of claim 11 recites "...from 1 to 25 in total..." The examiner requests that if the applicant(s) intend to claim a resin coating film containing 1 to 25% mass of the pigments, that this be explicitly stated (see also claim 14).

13. **Claim 7** is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

14. **Claim 7** recites the limitation " heat releasing magnetic coating film " on line 9-10.

There is insufficient antecedent basis for this limitation in the claim. As such, "the coating film" beginning line 12 is also rendered ambiguous.

15. **Claim 14** is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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16. **Claim 14** recites the limitations "heat releasing magnetic coating paint" and "heat releasing magnetic resin film" on line 9 and line 30, respectively. There is insufficient antecedent basis for these limitations in the claim.

***Claim Rejections - 35 USC § 102***

17. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

18. **Claim 1-2 and 4** are rejected under 35 U.S.C. 102(b) as being anticipated by Konishi et al (US Patent 5539148).

Konishi teaches a conductive layer made of copper, aluminum or the like (metal sheet) upon which is formed a magnetically lossy layer (Column 4, lines 8, 15-16, 31-32 and Figure 2, ref. numbers 20 and 30, respectively), said lossy layer consisting of a film of resin containing soft ferrite particles (Column 4, lines 65-67) whereby the film has a thickness of 50  $\mu$ m (Table 3, comparative example). Konishi also teaches that the resin is an alkyd (or polyester) resin (Column 5, line 15).

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19. **Claims 1-8** are rejected under 35 U.S.C. 102(e) as being anticipated by Watase et al (US Patent Application Publication 2005/0163983).

**Regarding claims 1-6**, Watase teaches a substrate which is a metal sheet (para. 0211, lines 5 - 7) upon which is disposed a thermal radiative coating with a thickness of 3  $\mu$ m, 5  $\mu$ m, 7  $\mu$ m, and 10  $\mu$ m (para. 0136-0137), said coating containing black additives of the oxides of Fe (soft magnetic ferrites, para. 0141) with an average particle size of 5 to 100 nm (powder, para. 0145, lines 1- 2) with said thermal radiative coating formed of a polyester resin (para. 0143, lines 1- 5). Watase also teaches that Fe, Co and Ni filler (magnetic metal powder) is added to the coating; also, that the filler is Ag and Cu filler (electrically conductive additive) (para. 0208, lines 1 - 4 and para. 0209, lines 1 - 3), whereby the content of the filler is 20% - 35% (anticipatory of the ranges of claim 5) and preferable adjusted to 45% or less, more preferably 40% or less, still more preferably 35% or less (anticipatory of ranges in claim 6) (para. 0210).

**Regarding claims 7 - 8**, Watase teaches a coated body comprising a substrate coated on the surface side and back side with thermal radiative coatings (para 0018) with said substrate consisting of a metal sheet (para. 0211, lines 5 - 7) where the content X, or mass %, of the blackening additives (para 0125, lines 5 - 7) is 5% and that no particular limitation is imposed on the upper limit of X ( > 10%) (para. 0134, lines 6 - 8). Watase continues to teach that a typical example of the blackening additive is carbon black with other examples including the oxides, sulfides and carbides of Fe, Co, Ni, Cu, Mn, Mo, Ag or Sn and black fine metal powder (para. 0141) and that the thickness of the thermal



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radiative coating is > 1  $\mu$ m (para 0135). Watase further teaches the integrated emissivity standards as recited by applicant(s) (para 0091 - 0093) and that the blackening additive has an average particle size of 5 to 100 nm (para 0145, lines 1 – 2).

### ***Claim Rejections - 35 USC § 103***

20. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

21. **Claims 1-6** are rejected under 35 U.S.C. 103(a) as being obvious over Nagano et al (US Patent 5455116).

Nagano teaches a metal sheet (Column 2, lines 64-67) with a resin layer with a thickness of 50  $\mu$ m to 3 mm coated thereon, said resin layer constituted of an alkyd (or polyester) resin with the said resin layer further constituted of a dispersion of at least one of ferrite powder (e.g. hematite, a soft ferrite); a metal powder (e.g. gold, platinum, silver, copper, nickel, aluminum, iron or the like); and an electrically conductive metallic oxide (e.g. tin oxide and indium oxide) (see Column 3, lines 18-30, 33-40, 45-51, 65-67; Column 4, lines 1-4). Nagano continues to teach the following parts by weight of the dispersive material per 100 parts of the resin binder (Column 4, lines 23-27): electrically conductive metallic oxide from 3-20% (Column 4, lines 35-37); combination of ferrite and the electrically conductive metallic oxide from 3-200%. The variables as taught by Nagano – resin layer thickness, % mass of the electrically conductive metallic oxide and % mass of

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the combination of ferrite and the electrically conductive metallic oxide - fail to anticipate the ranges as recited by the applicant(s); however, these values taken together establish them as result-effective variables that are subject to routine experimentation for the purpose of providing a metal resin coated sheet with desired thermal radiative emissivity, electrical conductivity, etc. and as such, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify these parameters to obtain the invention as claimed by applicant(s).

22. **Claims 11 - 15** are rejected under 35 U.S.C. 103(a) as being obvious over Watase et al (US Patent Application Publication 2005/0163983) in further view of Nakao et al (US Patent 5945218).

**Regarding claims 11-13**, Watase teaches the metal substrate with coatings on the both sides of said substrate, said coatings containing magnet material and black additives (see Watase claim rejections of claims 1-8 above). Watase fails to teach a *resin coating film*, coated on the thermal radiative coatings, containing at least one of a white and luster pigment with a thickness of *0.05 to 10 μm* or a *total mass % of from 1 – 25%*, said pigments being an *oxide pigment* and further said pigments containing *titanium oxide*. Watase also fails to teach a metal sheet that can satisfy an L Value of 44.0 to 60.0.

However, Nakao teaches a process for forming a multilayer film (title) where a white coating comprising a thermosetting resin, a metal powder coated with a white pigment and a titanium dioxide pigment (column 1, lines 54-56) can be coated on a plastic

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substrate - e.g. the resinous thermal radiative coating as taught by Watase – (column 1, line 67 and column 2 line 1). Nakao continues to teach a white coating with a thickness of from 5 to 15  $\mu\text{m}$  (column 3, lines 7 – 8) and a content of the metal coated with a white pigment from 0.1 to 30 parts by weight and the titanium dioxide pigment being from 1 to 200 parts by weight (column 3 , lines 44 – 53). Nakao further teaches an L value of 70 – 100 (column 4, line 12- 13). Clearly, the thickness, % mass composition and L values of the white coating as taught by Nakao constitute result-effective variables and as such, as further demonstrated by Table 1 of column 8 of the reference, may be adjusted to yield a product of desired properties to fit a particular solution. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Watase with the additional coating as taught by Nakao in order to obtain a metal sheet with thermal radiative properties and an additional white resinous coating coated thereon to impart to the metal sheet a decorative appearance, chip and scratch protection to the more functional thermal underlayer, surface smoothness, hiding power, fingerprint resistance and the like.

**Regarding claims 14-15**, Watase teaches the metal substrate with coatings on the both sides of said substrate, said coatings containing magnet material and black additives with the associated integrated emissivities (see Watase claim rejections of claims 1-8 above). Watase fails to teach *resin coating film*, coated on the thermal radiative coatings, containing at least one of a white and luster pigment with a thickness of *0.05 to 10  $\mu\text{m}$*  or a *total mass % of from 1 – 25%*, said pigments being an *oxide pigment* and further said

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pigments containing *titanium oxide*. Watase also fails to teach a metal sheet that can satisfy an L Value of 44.0 to 60.0.

However, Nakao teaches a process for forming a multilayer film (title) where a white coating comprising a thermosetting resin, a metal powder coated with a white pigment and a titanium dioxide pigment (column 1, lines 54-56) can be coated on a plastic substrate - e.g. the resinous thermal radiative coating as taught by Watase – (column 1, line 67 and column 2 line 1). Nakao continues to teach a white coating with a thickness of from 5 to 15  $\mu\text{m}$  (column 3, lines 7 – 8) and a content of the metal coated with a white pigment from 0.1 to 30 parts by weight and the titanium dioxide pigment being from 1 to 200 parts by weight (column 3 , lines 44 – 53). Nakao further teaches an L value of 70 – 100 (column 4, line 12- 13). Clearly, the thickness, % mass composition and L values of the white coating as taught by Nakao constitute result-effective variables and as such, as further demonstrated by Table 1 of column 8 of the reference, may be adjusted to yield a product of desired properties to fit a particular solution. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Watase with the additional coating as taught by Nakao in order to obtain a metal sheet with thermal radiative properties and an additional white resinous coating coated thereon to impart to the metal sheet a decorative appearance, chip and scratch protection to the more functional thermal underlayer, surface smoothness, hiding power, fingerprint resistance and the like.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to FRANK D. DUCHENEAUX whose telephone number is (571)270-7053. The examiner can normally be reached on M-Th, 7:30 A.M. - 5:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Callie Shosho can be reached on (571)272-1123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

FDD

/Callie E. Shosho/  
Supervisory Patent Examiner, Art Unit 1794